

5    **Abstract**

          This invention provides a vaccine that can direct gene transfer and the transfer of  
other immunogens to follicle associated epithelium or M cells to induce mucosal immunity  
using M cell ligands for receptor-mediated endocytosis. Also provided are polynucleotides  
sequences encoding M cell ligand-polybasic component fusion proteins, host cells, and  
10    methods of producing such proteins recombinantly and chemically. Further, methods are  
described for immunizing animal and human subjects against bacterial, viral, parasitic,  
fungal infectious agents or cancer and methods for assaying mucosal immunity using this  
vaccine.